

6

REMARKS

Previous claims 1-7 and 10-12 are cancelled. Claims 8, 9 and 13-16 are amended. New claims 17-25 are added to better describe the invention.

Previous claims 1, 6, 7, 13 and 14 were rejected under 35 U.S.C. 102(b) as being anticipated by Dumitriu USP 5,620,706 (hereinafter " '706"). In view of the amended and newly presented set of claims, it is respectfully submitted that this rejection is now obviated. New claim 17 (independent claim for the composition) recites a composition comprising a thermal and photosensitive ingredient, a stabilizer for such ingredient and a chitosan-xanthan hydrogel.

Although '706 teaches a chitosan-xanthan hydrogel for controlled release of active drug ingredients, it does not address the present invention which is directed to achieving the thermal and photo stability of particularly sensitive active ingredients such as vitamins, amino acids, nucleic acids and peptides. The ingredients are easily subject to oxidative degradation under ambient light, at ambient or elevated temperatures and in wet conditions. The combination of chitosan-xanthan hydrogel and stabilizing agent surprisingly allows an effective and continuous contact between the stabilizing agent and the sensitive active ingredient. This remains true despite harsh conditions such as freeze-drying of the composition of the present invention. In contrast, '706 fails to teach the use of stabilizing agent in combination with a chitosan-xanthan hydrogel and a thermal or photosensitive active ingredient. Since all composition claims depend on claim 17, it follows that the currently presented set of claims is patentable over '706.

7

Previous claims 1-7, 15 and 16 stood rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-4 of '706. It is respectfully submitted that the new set of claims do not overlap on any claims of '706. Thus, the rejection should not be considered to apply to the newly presented claims.


Previous claims 1-16 stood rejected under 35 U.S.C. 112 for lack of enablement for hydrogels comprising any percentage of ingredients. Newly presented claims recite hydrogels comprising 24-40% chitosan and 60-76% xanthan, as suggested by the Examiner.

Previous claims 1-4, 7, 13, 15 and 16 stood rejected under 35 U.S.C. 103(a) as being unpatentable over '706. However, the newly presented claims are clearly distinguished from '706 in that the claims recite the presence of a stabilizing agent which is totally absent and could not be easily envisaged from '706.

It should be understood that claim amendments for which no explanation is established above were made for clarity purposes only and not for reasons related to statutory requirements for patentability.

Respectfully submitted,

Dated: MAY 6, 2002

By: 
Alain M. Lederc
Reg. No. 37,036

VERSION WITH MARKINGS

The claims have been amended as follows. Double Underline indicate insertions and ~~striketrough~~ indicate deletions.

1-7 (Cancelled)

8. (Amended) A method of making ~~the preparations of claim 6~~ the composition of claim 24 comprising the following steps:

- a) dissolving said liposoluble active ingredients in an appropriate solvent containing a stabilizing agent having a protective thermal and photo effect on said liposoluble ingredient so as to form a solution;
- b) adding the solution created in a), under agitation, to a xanthan solution so as to form a mixture;
- c) spraying the mixture created in b) into a chitosan solution; and
- d) recuperating of the hydrogel thus formed;

wherein steps a) to d) are essentially conducted in the absence of oxygen ~~(air)~~ and light.

9. (Amended) A method of making the ~~preparations~~ composition of claim ~~7~~ 25 comprising the following steps:

- a) spraying a solution of xanthan into a solution of chitosan so as to form a hydrogel
- b) recovering the hydrogel formed in (a) followed by freeze-drying ~~(or lyophilisating)~~ the hydrogel;
- c) introducing the freeze-dried hydrogel into an aqueous solution comprising at least one of said hydrosoluble active ingredients and a stabilizing agent having a protective thermal and photo effect on said hydrosoluble ingredient;
- d) incorporating said hydrosoluble active ingredient(s) and stabilizing agent in the hydrogel by diffusion into the swollen hydrogel having a swelling index of 2000% or beyond to obtain a loaded hydrogel;

e) recovering said loaded hydrogel;
wherein steps c) to e) are essentially conducted in the absence of oxygen air and light.

10-12 (Cancelled)

13. (Amended) A dermatological product comprising the ~~preparations~~
composition of claim 4 17.

16. (Amended) A food additive comprising the ~~preparations of claim 1~~
composition of claim 17.